# RESEARCH METHODOLOGY

1. Tools

Tools used such as PH sensors, Turbidity sensors, Ultrasonic sensors, Solenoid Valve, Relay, 12v adapter, and Arduino UNO. From all these tools will be assembled into one (PH sensors, Turbidity sensors, Ultrasonic sensors, relays, 12v adapters, and Arduino Uno) and the Solenoid Valve is used as an automatic water drain door.

2. Data retrieval

For data retrieval, the appliance will be installed in a prototype fish pond and carried out experiments several times to obtain the accuracy of water quality, water turbidity.

3. Calibration PH sensor, Turbidity sensor.

The calibration process is used to determine whether the PH sensor and turbidity sensors are accurate in reading or determining the quality of the water.

4. Testing

The next step is to experiment with the accuracy of the PH sensor and Turbidity sensors in the water. What is the accuracy of the PH sensor compared to the paper PH gauge and Turbidity sensors that refer to the level of turbidity of the PDAM water system? And will be carried out the measurement rate of water PH measurements, the system rate stabilizes the PH water.